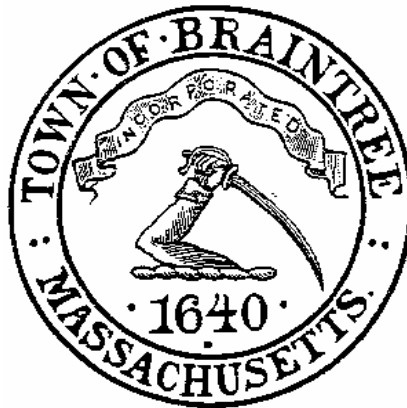


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# Brintree Retirement System



Actuarial Valuation  
January 1, 2006

# STONE CONSULTING, INC.

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Medfield, MA 02052  
(508) 359-9600 (Telephone)  
(508) 359-0190 (Facsimile)  
Lstone@stoneconsult.com

December 6, 2006

Gerald J. Kenny, Jr.  
Chair  
Braintree Retirement Board  
71 Cleveland Avenue, Room 3  
Council on Aging Building  
Braintree, MA 02184

Dear Mr. Kenny:

Stone Consulting, Inc. has performed a January 1, 2006 actuarial valuation of the Braintree Contributory Retirement System. This valuation and report was prepared using generally accepted actuarial principles and practices and meets the parameters set by the Governmental Accounting Standards Board Statement (GASB) No. 25. To the best of our knowledge, this report is complete and accurate, and the assumptions used represent our best estimate of anticipated experience of the system.

As part of performing the valuation, Stone Consulting, Inc. was furnished member data by the Braintree Contributory Retirement System's administrative staff. Although examined for general reasonableness, the data was not audited by the actuary. In addition, the administrative staff furnished financial statements that were not audited by the actuary or by the plan's auditors.

The funding objective of the plan is to fully fund the system while attempting to maintain a stable contribution amount for the upcoming fiscal year that is consistent with prior funding schedules. This funding objective is being met.

We anticipate over time that the contribution level to decrease as a percentage of payroll. The contribution rate is determined by adding the normal cost plus an amortization of the unfunded actuarial accrued liability. The normal cost is expected to remain at a level percentage of payroll. The number of years of the amortization and/or the rate of increase of the amortization is adjusted to maintain a stable contribution level for the upcoming fiscal year. The length of the funding schedule contained in this actuarial valuation report is nineteen years (fully funded by 2026) with a 2.0% amortization increase. The amortization increase cannot exceed 4.5% annually. The maximum length of the amortization is until fiscal 2028. These limits are contained in Chapter 32 of the Massachusetts General Laws.

The contribution amount for Fiscal Year 2006 is \$6,163,965 that is \$66,977 more than the anticipated contribution amount from the prior funding schedule. PERAC and GASB guidelines indicate that actuarial valuations should be conducted at least every other year. The Braintree Contributory Retirement Board conducted their last actuarial valuation for January 1, 2004. This satisfies these guidelines.

We are pleased to present the results of this valuation. If the Retirement Board has any questions on the content of this report, we would be glad to respond.

Respectfully submitted,  
*STONE CONSULTING, INC.*  
Actuaries for the Plan

Lawrence B. Stone  
Member, American Academy of Actuaries



## BRAINTREE RETIREMENT SYSTEM

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## BRAINTREE RETIREMENT SYSTEM

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### SECTION I: MANAGEMENT SUMMARY

#### INTRODUCTION

This report presents the results of the actuarial valuation of the Braintree Retirement System. The valuation was performed at the request of the Retirement Board as of January 1, 2006 for the purpose of determining the contribution requirements for Fiscal Year 2008 and beyond. The contribution requirements are based on:

- The financial condition of the system as of December 31, 2005;
- The benefit provisions of M.G.L. Chapter 32;
- The demographics of members in the system (i.e., active and inactive participants, retirees and beneficiaries as of January 1, 2006);
- Economic assumptions regarding salary increases and investment earnings; and
- Other actuarial assumptions (i.e., terminations, retirement, death, etc.)

#### JANUARY 1, 2006 VALUATION SUMMARY

	January 1, 2006	January 1, 2004	Change
<b>Contribution Fiscal 2008</b>	\$6,163,965	\$6,096,988	+ \$66,977
<b>Funding Schedule Length</b>	19 years	21 years	- 2 years
<b>Amortization Increase</b>	2.0%	2.0%	0%
<b>Funding Ratio</b>	72%	68%	+ 4%
<b>Interest Rate Assumption</b>	7.875%	8.00%	- 0.125%
<b>Salary Increase Rate Assumption</b>	4.75%	4.75%	0%

- The Fiscal Year 2008 contribution is \$66,977 more than the planned 2008 contribution. The System experienced a \$1.9 million asset gain when compared to the expected asset return during the two calendar years of 2004 and 2005. The annual rate of return was 8.9% versus the assumption of 8.00%.



## BRAINTREE RETIREMENT SYSTEM

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- The market value of assets effective January 1, 2004 was \$103 million; whereas the market value of assets effective January 1, 2006 was \$120 million. This is an increase of 15.85% or 7.63% annually. The Retirement System's asset portfolio is invested 65% in equities and 35% from fixed income and cash.
- Based upon projections of lower future returns, we lowered the interest rate assumption by 0.125% to reflect anticipated market performance. This had the effect of increasing the actuarial accrued liability by \$2,049,843.
- The funding level of the Braintree Retirement System improved from 68% for the 2004 valuation to 72% for the 2006 valuation. The funding level is estimated to be in the upper quartile of Massachusetts' Contributory Retirement Systems.
- The schedule length is nineteen (19) years. In consultation with the Retirement Board, it was decided that the asset gain would be used to shorten the funding schedule from 21 years to 19 years. The schedule's length is two years less than the maximum permitted under Chapter 32 of the Massachusetts General Laws. The amortization level could be maintained at the 2004 level of 2.0%. The maximum amortization permitted under Chapter 32 is 4.5%. This provides the Braintree Retirement Board some flexibility and cushion to respond to fluctuations in portfolio performance and System losses, if need be.
- The salary increase rate was maintained at 4.75%, consistent with the 2004 actuarial valuation. Compensation over the course of the two-year period increased only 4.8% over the two year period and average annual compensation (compensation divided by number of active members) grew at a slower rate of 2.0%. Prospective salary increases are projected to return to approximately the 4.75% rate.
- New annuity rates were recently enacted. In general, this will prospectively reduce the actuarial gains that the system had been receiving when members select Option C. The



## BRAINTREE RETIREMENT SYSTEM

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change in the annuity rates not only affects the conversion from Option A to Option C it also affects the calculation of certain accidental disability benefits. Individuals hired prior to 1987 are eligible for up to 100% of compensation if they retire under the accidental disability provisions. The benefit is calculated by adding 72% of pay to the annuity based on the accumulated contributions. The new annuity rates significantly increase the annuity amounts and therefore increase the accidental disability benefits for these individuals. There was an increase of \$178,000 attributable to the Present Value of Future Benefits as a result of this annuity rate change.

- All remaining assumptions (except the interest rate assumption, and annuity rate change) are consistent with the January 1, 2004 actuarial valuation.
- GASB Statements 43 and 45 for Other Post-Employment Benefits (OPEB) will be applicable to the Town in Fiscal Year 2008. While not directly a Retirement Board issue, the Board should recognize that there will be pressure on the Town to fund OPEB liabilities and that this will likely affect the availability of extra funds for the Retirement System.



## BRAINTREE RETIREMENT SYSTEM

### SUMMARY OF JANUARY 1, 2006 VALUATION

	January 1, 2006	January 1, 2004	Percentage Change
<b>Funding</b>			
• Contribution for Fiscal 2008	\$6,163,965		
• Contribution for Fiscal 2008 based on current schedule		\$6,096,988	1.1%
<b>Members</b>			
• <i>Actives</i>			
a. Number	719	700	2.7%
b. Annual Compensation	\$30,860,696	\$29,450,291	4.8%
c. Average Annual Compensation	\$42,922	\$42,072	2.0%
d. Average Attained Age	47.8.0	47.8	0.4%
e. Average Past Service	11.5	11.6	-0.9%
• <i>Retired, Disabled and Beneficiaries</i>			
a. Number	501	489	2.5%
b. Total Benefits*	\$9,611,006	\$8,154,601	17.9%
c. Average Benefits*	\$ 19,184	\$16,676	15.0%
d. Average Age	73.6	73.1	0.7%
• <i>Inactives</i>			
a. Number	19	64	-70.3%
<b>Normal Cost</b>			
a. Total Normal Cost as of January 1, 2006	\$4,240,143	\$3,940,104	7.6%
b. Less Expected Members' Contributions	<u>2,636,137</u>	<u>2,440,597</u>	8.0%
c. Normal Cost to be funded by the Municipality	\$1,604,006	\$1,499,507	7.0%
d. Adjustment to July 1, 2007	115,632	108,099	
e. Administrative Expense Assumption	<u>289,000</u>	<u>280,000</u>	3.2%
f. Normal Cost Adjusted to July 1, 2007	\$2,008,638	\$1,887,606	6.4%

\*Excluding State reimbursed COLA



## BRAINTREE RETIREMENT SYSTEM

### SUMMARY OF JANUARY 1, 2006 VALUATION (Continued)

	January 1, 2006	January 1, 2004	Percentage Change
<b>Actuarial Accrued Liability as of January 1, 2006</b>			
a. Active Members	\$77,306,354	\$73,729,420	4.9%
b. Inactive Members	396,212	601,331	-34.1%
c. Retired Members and Beneficiaries	<u>89,610,805</u>	<u>76,992,895</u>	16.4%
d. Total	\$167,313,371	\$151,323,646	10.6%
<b>Unfunded Actuarial Accrued Liability</b>			
a. Actuarial Accrued Liability as of January 1, 2006	\$167,313,371	\$151,323,646	10.6%
b. Less Actuarial Value of Assets as of January 1, 2006	<u>119,721,733</u>	<u>103,345,161</u>	15.8%
c. Unfunded Actuarial Accrued Liability as of January 1, 2006	\$ 47,591,638	\$ 47,978,485	-0.8%
d. Adjustment to July 1, 2007	\$ <u>2,319,874</u>	\$ <u>2,920,202</u>	-20.6%
e. Unfunded Actuarial Accrued Liability as of July 1, 2007	\$ 49,911,512	\$ 50,898,687	-1.9%





## BRAINTREE RETIREMENT SYSTEM

### DEMOGRAPHIC INFORMATION

Members	January 1, 2006	Percentage Change
• <i>Actives</i>		
a. Number	719	2.7%
b. Annual Compensation	\$30,860,696	4.8%
c. Average Annual Compensation	\$42,922	2.0%
d. Average Attained Age	47.8	0.4%
e. Average Past Service	11.5	-0.9%
• <i>Retired, Disabled and Beneficiaries</i>		
a. Number	501	2.5%
b. Total Annual Retirement Allowance excluding State-reimbursed COLA	\$9,611,006	17.9%
• <i>Inactives</i>		
a. Number	19	-70.3%

- The data was supplied by the Braintree Retirement Board. The data was checked under broad parameters of reasonableness. With the assistance of the staff of the Braintree Retirement Board, we were able to develop a database sufficient for valuation purposes.
- Payroll increased by 4.8% over the course of the past two years. Average annual compensation increased by 2.0% over the same time period. We use average annual compensation as the measure that is most accurate in reflecting salary increase growth. There was a modest increase in the number of active members during the same time period.
- The salary increase assumption includes general wage adjustments, step increases, and promotional increases. The two-year average annual compensation growth was significantly less than the salary increase assumption. We maintained the 4.75% salary increase assumption as this is considered a reasonable projection of future salary costs.



## BRAINTREE RETIREMENT SYSTEM

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### HISTORY OF ACTIVE PARTICIPANTS

<b>Valuation Year</b>	<b>Number</b>	<b>Average Age</b>	<b>Average Past Service</b>	<b>Average Ann'l Compensation</b>
2006	719	47.8	11.5	\$42,922
2004	700	47.8	11.6	\$42,072
2002	742	47.2	11.2	\$38,781
2000	685	46.8	12.9	\$35,440

- Employee age has been increasing since 2000. Over the past three years employee service has maintained relatively consistent. Average annual compensation has only grown 2% over the course of 2004 to 2006, while more significant compensation growth of over 8% was experienced between 2002 and 2004, and 2000 and 2002.

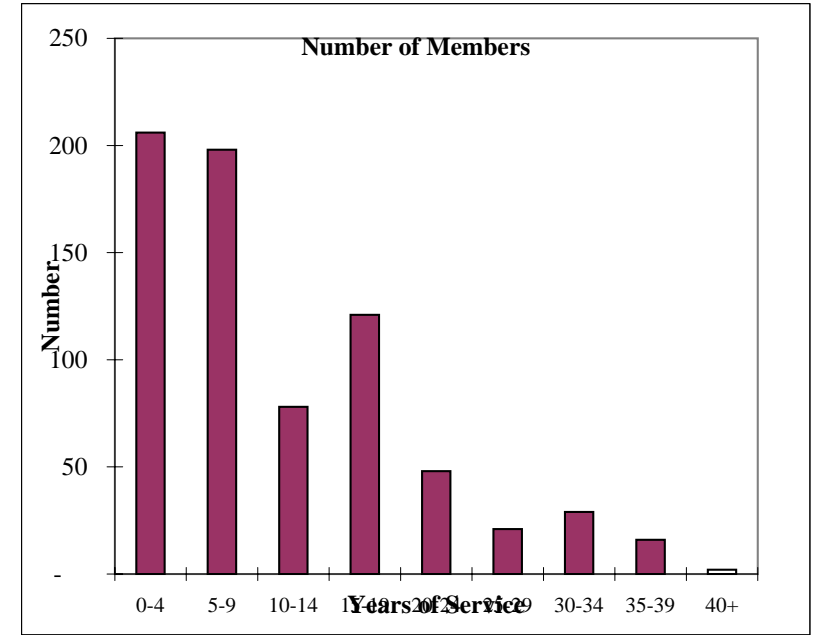
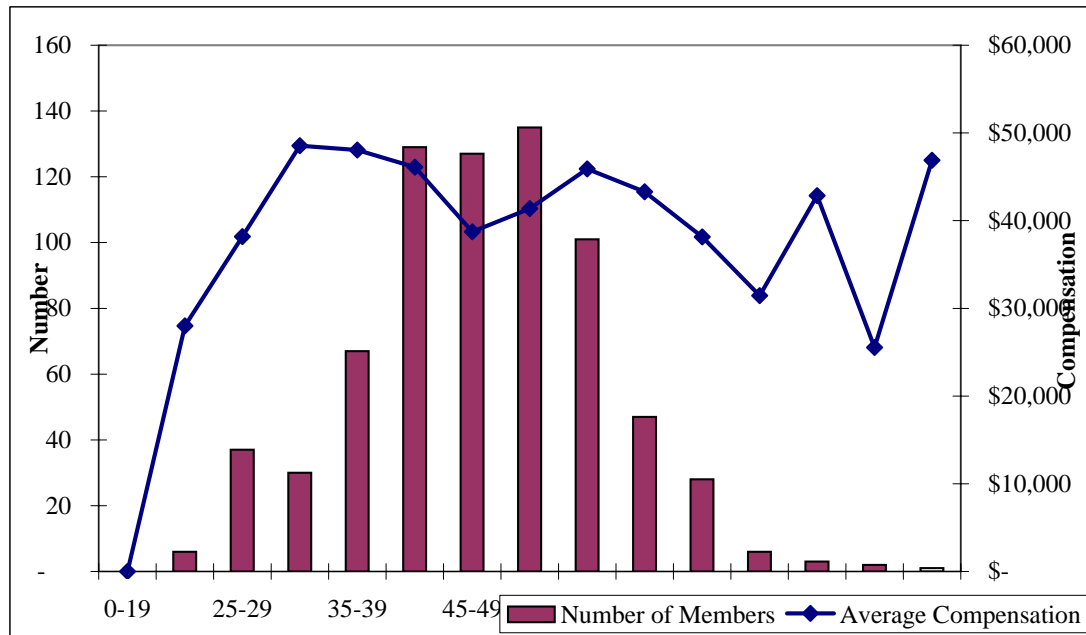
The charts on the following pages summarize demographic information regarding active and retiree members.

# Braintree Retirement System

## Distribution of Plan Members as of January 1, 2006

### Active Members

AGE	0-4 Years	5-9 Years	10-14 Years	15-19 Years	20-24 Years	25-29 Years	30-34 Years	35-39 Years	40 + Years	Total	Total Compensation	Average Compensation
0-19	-	-	-	-	-	-	-	-	-	-	\$ -	\$ -
20-24	6	-	-	-	-	-	-	-	-	6	168,012	28,002
25-29	30	7	-	-	-	-	-	-	-	37	1,412,519	38,176
30-34	15	15	-	-	-	-	-	-	-	30	1,456,309	48,544
35-39	24	18	19	6	-	-	-	-	-	67	3,218,874	48,043
40-44	40	33	10	39	7	-	-	-	-	129	5,947,361	46,104
45-49	38	38	15	18	15	3	-	-	-	127	4,919,249	38,734
50-54	29	41	14	18	19	8	5	1	-	135	5,584,973	41,370
55-59	16	27	11	21	1	6	11	7	1	101	4,635,318	45,894
60-64	4	13	2	11	3	1	7	5	1	47	2,034,917	43,296
65-69	4	6	4	5	3	2	3	1	-	28	1,067,895	38,139
70-74	-	-	3	1	-	1	1	-	-	6	188,738	31,456
75-79	-	-	-	2	-	-	-	1	-	3	128,558	42,853
80-84	-	-	-	-	-	-	1	1	-	2	51,087	25,544
85+	-	-	-	-	-	-	1	-	-	1	46,887	46,887
<b>TOTAL</b>	<b>206</b>	<b>198</b>	<b>78</b>	<b>121</b>	<b>48</b>	<b>21</b>	<b>29</b>	<b>16</b>	<b>2</b>	<b>719</b>	<b>\$ 30,860,696</b>	<b>\$ 42,922</b>



# Braintree Retirement System

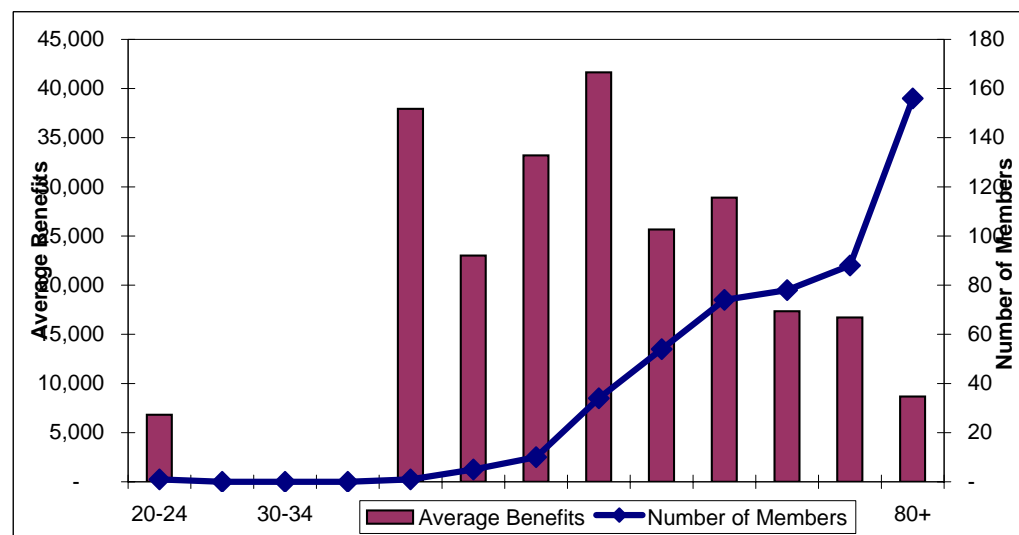
## Distribution of Plan Members as of January 1, 2006

### Retired Members

<u>Disabled Member</u>			
Age	Number	Average Benefit	Total Benefit
20-24	-	-	-
25-29	-	-	-
30-34	-	-	-
35-39	-	-	-
40-44	1	37,944	37,944
45-49	-	-	-
50-54	6	33,149	198,896
55-59	14	42,121	589,695
60-64	15	28,083	421,250
65-69	12	24,016	288,193
70-74	7	31,120	217,843
75-79	5	28,640	143,199
80+	10	14,604	146,036
<b>TOTAL</b>	<b>70</b>	<b>\$ 29,187</b>	<b>\$ 2,043,056</b>

<u>Retired Members and Beneficiaries</u>			
Age	Number	Average Benefit	Total Benefit
20-24	1	6,819	6,819
25-29	-	-	-
30-34	-	-	-
35-39	-	-	-
40-44	-	-	-
45-49	5	23,010	115,049
50-54	4	33,266	133,062
55-59	20	41,328	826,569
60-64	39	24,743	964,973
65-69	62	29,854	1,850,957
70-74	71	15,988	1,135,135
75-79	83	16,000	1,327,985
80+	146	8,270	1,207,401
<b>TOTAL</b>	<b>431</b>	<b>\$ 17,559</b>	<b>\$ 7,567,950</b>

<u>Total</u>			
Age	Number	Average Benefit	Total Benefit
20-24	1	6,819	6,819
25-29	-	-	-
30-34	-	-	-
35-39	-	-	-
40-44	1	37,944	37,944
45-49	5	23,010	115,049
50-54	10	33,196	331,959
55-59	34	41,655	1,416,264
60-64	54	25,671	1,386,223
65-69	74	28,907	2,139,150
70-74	78	17,346	1,352,978
75-79	88	16,718	1,471,185
80+	156	8,676	1,353,437
<b>TOTAL</b>	<b>501</b>	<b>\$ 19,184</b>	<b>\$ 9,611,006</b>



Benefits shown are net of State reimbursed COLA.



## BRAINTREE RETIREMENT SYSTEM

### VALUATION METHODOLOGY

Stone Consulting, Inc. used the Entry Age Normal actuarial funding method in this actuarial valuation. The use of the Entry Age Normal actuarial funding method is consistent with the requirements of Chapter 32 of the Massachusetts General Laws.

### NORMAL COST

	<b>January 1, 2006</b>	<b>% of Payroll</b>
Gross Normal Cost (GNC)	\$ 4,240,143	13.7%
Employees Contribution	<u>2,636,137</u>	<u>8.5%</u>
Net Normal Cost (NNC)	\$ 1,604,006	5.2%
Adjusted to Beginning of Fiscal Year 2008	\$ 115,632	
Administrative Expense	\$ <u>289,000</u>	0.9%
Adjusted Net Normal Cost With Admin. Expense	\$ 2,008,638	

- The gross normal cost (GNC) is the “price” of benefits accruing in the current year if the assumptions underlying the normal cost were realized.
- An individual normal cost represents that part of the cost of a member’s future benefits that are assigned to the current year as if the costs are to remain level as a percentage of the member’s pay. Benefits payable under all circumstances (i.e., retirement, death, disability, and terminations) are included in this calculation.
- Anticipated employee contributions to be made during the year are subtracted from the GNC to determine employer normal cost, or net normal cost (NNC).



## BRAINTREE RETIREMENT SYSTEM

### ACTUARIAL ACCRUED LIABILITY AND FUNDED STATUS

		January 1, 2006	Percentage Change
<b>Active Actuarial Accrued Liability</b>		\$ 77,306,354	4.9%
Superannuation	\$ 64,101,831		
Death	\$ 2,361,366		
Disability	\$ 8,886,463		
Termination	\$ 1,956,694		
<b>Retiree, Inactive, Survivor and Beneficiary Actuarial Accrued Liability</b>		<u>90,007,017</u>	16.0%
Retirees and Beneficiaries	\$ 68,836,923		
Disabled	\$ 20,773,882		
Inactive	\$ 396,212		
<b>Total Actuarial Accrued Liability (AAL)</b>		\$ 167,313,371	10.6%
<b>Actuarial Value of Assets (AVA)</b>		\$ <u>119,721,733</u>	15.8%
<b>Unfunded Actuarial Accrued Liability</b>		\$ 47,591,638	-0.8%
<b>Funded Ratio (AVA / AAL)</b>			
2006 (7.875% interest rate):	71.6%		
2004 (8.0% interest rate):	68%		

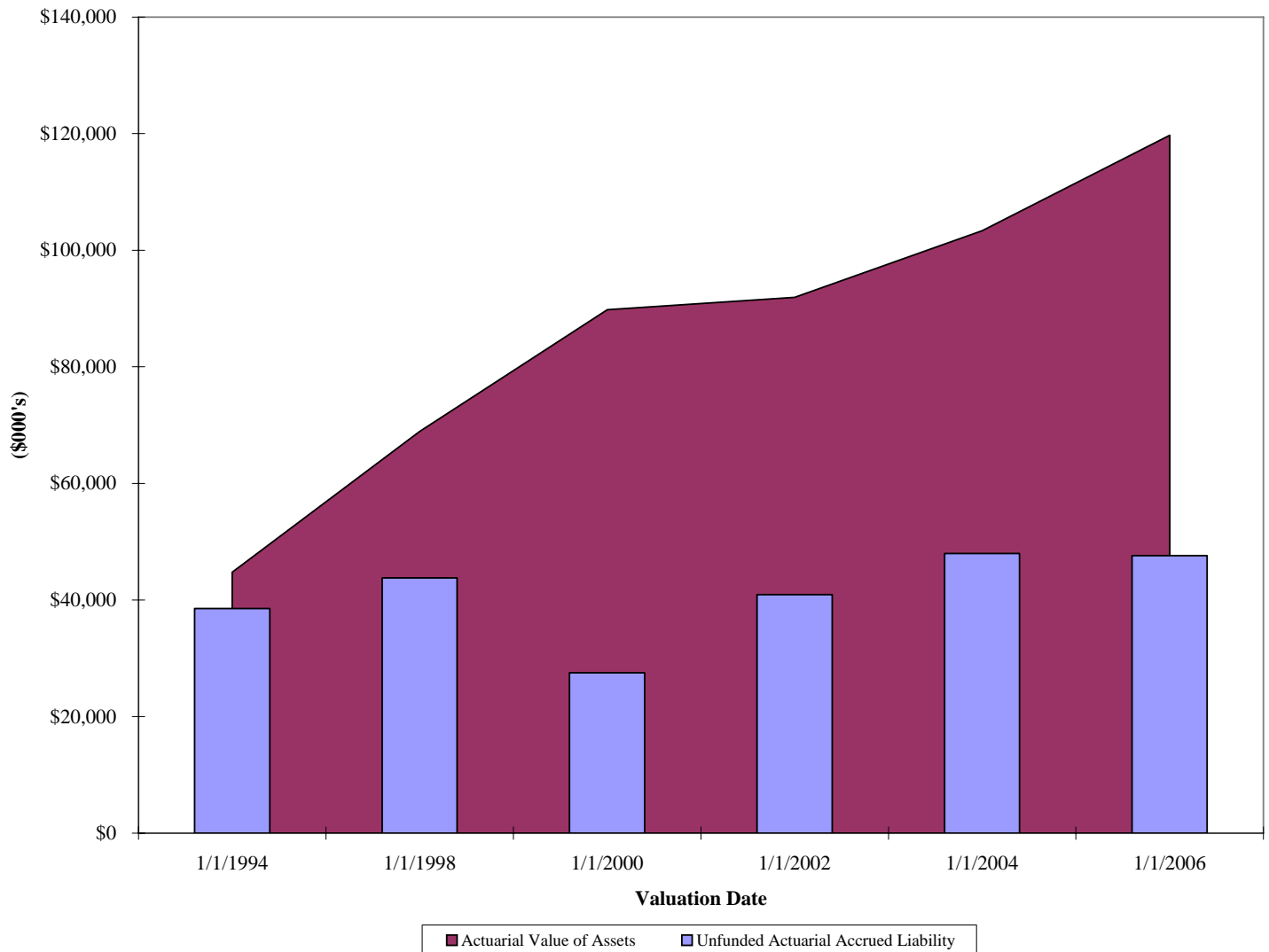
- Actuarial Accrued Liability (AAL) is the “price” of benefits attributable to benefits earned in past years, or in other words, represents today’s value of all benefits earned by active and inactive members.
- The total AAL is \$167,313,371. This along with an actuarial value of assets of \$119,721,733 produces a funded status of 72%. This compares to a funded status of 68% for the 2004 valuation.

The chart on the following page is a history of the unfunded actuarial accrued liability (UAL) and the valuation assets (AVA) over the course of the past seven actuarial valuations.



## BRAINTREE RETIREMENT SYSTEM

### HISTORY OF ACTUARIAL VALUATION OF ASSETS (AVA) AND UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAL)





## BRAINTREE RETIREMENT SYSTEM

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### DEVELOPMENT OF FUNDING SCHEDULE

Net Employer Normal Cost for Fiscal 2008	\$	2,008,638
Amortization	\$	<u>4,155,327</u>
Total Appropriation required for Fiscal 2008	\$	6,163,965

- The funding schedule is composed of the normal cost, and the amortization of the actuarial accrued unfunded liability.
- The contribution amount for Fiscal 2008 is \$6,163,965. The funding schedule is presented on page 15. The schedule's length is nineteen years which is two years less than the January 1, 2004 valuation schedule's length. The maximum funding schedule length allowed by Chapter 32 of the Massachusetts General Laws is 21 years.
- In developing the funding schedule, we used a fresh start approach in which the unfunded actuarial accrued liability is reamortized instead of maintaining the existing amortization amount and separately amortizing the actuarial gain or loss. The use of a fresh-start approach results in a funding schedule in which the changes in contribution amounts from year to year are more consistent. The amortization percentage increase also remained the same as the January 1, 2004 valuation at 2.00%. The maximum amortization increase allowed under Chapter 32 is 4.5%.
- We have assumed that the contribution will be made at the beginning of the fiscal year (July 1). In prior years, a portion of the contribution was made on August 15. The Town has agreed to make the contribution at the beginning of the fiscal year starting in Fiscal 2008.



# BRAINTREE RETIREMENT SYSTEM FUNDING SCHEDULE

Fiscal Year	Normal Cost	Unfunded Liability	Funding Amortization of UAL	Schedule Contribution
2008	2,008,638	49,911,512	4,155,327	6,163,965
2009	2,104,048	49,359,485	4,238,117	6,342,166
2010	2,203,991	48,674,676	4,322,564	6,526,554
2011	2,308,680	47,844,841	4,408,699	6,717,379
2012	2,418,342	46,856,738	4,496,557	6,914,900
2013	2,533,214	45,696,045	4,586,172	7,119,386
2014	2,653,541	44,347,275	4,677,580	7,331,121
2015	2,779,585	42,793,683	4,770,816	7,550,400
2016	2,911,615	41,017,168	4,865,916	7,777,531
2017	3,049,917	38,998,163	4,962,919	8,012,835
2018	3,194,788	36,715,520	5,061,861	8,256,649
2019	3,346,540	34,146,384	5,162,783	8,509,323
2020	3,505,501	31,266,060	5,254,482	8,759,983
2021	3,672,012	28,059,990	5,354,927	9,026,939
2022	3,846,433	24,493,086	5,462,026	9,308,458
2023	4,029,138	20,529,756	5,571,266	9,600,404
2024	4,220,522	16,136,471	5,682,692	9,903,214
2025	4,420,997	11,277,015	5,796,345	10,217,342
2026	4,630,994	5,912,272	5,912,272	10,543,267
2027	4,850,967	-	-	4,850,967

## Amortization of Unfunded Liability as of July 1, 2007

Year	Type	Original Amort. Amount	Percentage Increasing	Original # of Years	Current Amort. Amount	Years Remaining
2005	ERI-BHA2002*	11,240	0.00%	15	11,240	12
2006	ERI_BHA2003*	4,554	0.00%	15	4,554	13
2008	Fresh Start	4,139,533	2.00%	19	4,139,533	19

### Notes on Amortization of Unfunded Liability

**Year** is the year the amortization base was established.

**Type** is the reason for the creation of the base. Examples are Gain/(Loss) or Fresh Start.

**Original Amortization Amount** is the annual amortization amount when the base was established.

**Percentage Increasing** is the percentage that the Original Amortization Amount increases per year.

**Original # of Years** is the number of years over which the base is being amortized.

**Current Amortization Amount** is the amortization payment amount for this year.

**Years Remaining** is the number of years left to amortize the base.

or change in interest rate



## BRAINTREE RETIREMENT SYSTEM

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### ASSUMPTIONS AND METHODOLOGY SUMMARY

The principal actuarial assumptions used in this valuation are the same as the assumptions used in the previous valuation, except where noted, and are summarized in the following table:

<u>Assumption</u>	<u>January 1, 2006 Valuation</u>
Interest Rate	7.875% (prior valuation: 8.0%)
Salary Increase	4.75% (same as prior valuation)
COLA	3% of \$12,000
COLA Frequency	Granted every year
Mortality	RP-2000 table. For members retired under an Accidental Disability (job-related), 50% of deaths are assumed to be from the same cause as the disability. Disabled mortality RP2000 table, ages set forward 5 years.
Overall Disability	<u>Groups 1 and 2</u> 33% ordinary disability 67% accidental disability  <u>Group 4</u> 10% ordinary disability 90% accidental disability
Retirement Rates	<u>Groups 1 and 2</u> Ages 55 – 65 <u>Group 4</u> Ages 50 – 65
Administrative Expense	\$289,000 budget estimated for FY 2008 provided by Braintree Retirement Board.



## BRAINTREE RETIREMENT SYSTEM

### ASSETS

a.	Cash	\$	3,868,856.85
b.	Equities		25,970,881.38
c.	Pooled Domestic Equity Funds		21,455,487.57
d.	Pooled International Equity Funds		19,458,147.81
e.	Pooled Domestic Fixed Income Funds		41,679,006.80
f.	Pooled Real Estate Funds		7,303,277.42
g.	Sub-Total:		119,735,657.83
h.	Interest Due and Accrued	\$	-
i.	Accounts Receivable		670.02
j.	Accounts Payable		(14,594.83)
k.	Sub-Total:	\$	(13,924.81)
l.	Market Value of Assets [(g) + (k)]	\$	119,721,733.02

- We were furnished with the System's annual report by the Board. The market value of assets as of December 31, 2005 (adjusted for interest due and accrued, payables and receivables) is \$119,721,733.02.
- The asset allocation is approximately 38% cash, receivables, payables and fixed income, 22% equities, 16% Pooled International Equity Funds, 18% Pooled Domestic Equity Funds and 6% Pooled Real Estate Funds.
- Historically, 10 to 11% has been the expected long-term rate of return for equities, and 6 to 7% has been the expected long-term rate of return for fixed income securities. Many economists and investment professionals are projecting lower returns of 6.25 to 9.00% for equities and 3.65 to 6.00% for fixed income securities. In light of these projections, as well as historical investment returns, the 7.875% interest rate assumption is within the reasonable assumption range. We encourage close monitoring for changes in investment performance against expectations.



## BRAINTREE RETIREMENT SYSTEM

### DISCLOSURE INFORMATION UNDER GASB STATEMENT 25

#### *SCHEDULE OF FUNDING PROGRESS*

(Dollars In Thousands)

<b>Actuarial Valuation Date</b>	<b>Actuarial Value of Assets</b>	<b>Actuarial Accrued Liability</b>	<b>Unfunded AAL (UAAL)</b>	<b>Funded Ratio</b>	<b>Covered Payroll</b>	<b>UAAL as a % of Covered Payroll (B-A)/C</b>
<b>A</b>	<b>B</b>	<b>B-A</b>	<b>A/B</b>	<b>C</b>	<b>(B-A)/C</b>	
1/1/2006	\$119,722	\$167,313	\$47,591	72%	\$30,861	154%
1/1/2004	\$103,345	\$151,324	\$47,979	68%	\$29,450	163%
1/1/2002	\$91,927	\$132,850	\$40,923	69%	\$28,775	142%
1/1/2000	\$89,822	\$117,318	\$27,496	77%	\$24,276	113%

#### *NOTES TO SCHEDULES*

Additional information as of the latest actuarial valuation follows:

Valuation date	1/1/2006
Actuarial cost method	Entry Age Normal
Amortization method	Approximate level percent of payroll Closed
Remaining amortization period	19 years
Asset valuation method	Market value of assets adjusted by payables and receivables.

Actuarial assumptions:

Investment Rate of Return	7.875% per year
Projected Salary Increases	4.75% per year



## BRAINTREE RETIREMENT SYSTEM

### PERAC INFORMATION DISCLOSURE

The most recent actuarial valuation of the System was prepared by Stone Consulting, Inc. as of January 1, 2006

The normal cost for employees on that date was: \$2,636,137 8.5% of payroll

The normal cost for the employer was: \$1,604,006 5.2% of payroll

The actuarial liability for active members was: \$77,306,354

The actuarial liability for retired members was (includes inactives):

Total actuarial accrued liability: 90,007,017 \$167,313,371

System assets as of that date: 119,721,733

Unfunded actuarial accrued liability: \$47,591,638

The ratio of system's assets to total actuarial liability was: 72%

As of that date the total covered employee payroll was: \$30,860,696

The principal actuarial assumptions used in the valuation are as follows:

Investment Return: 7.875% per annum

Rate of Salary Increase: per annum

### SCHEDULE OF FUNDING PROGRESS (Dollars in \$000's)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a % of Covered Payroll ((b-a)/c)
1/1/2006	\$119,722	\$167,313	\$47,591	72%	\$30,861	154%
1/1/2004	\$103,345	\$151,324	\$47,979	68%	\$29,450	163%
1/1/2002	\$ 91,927	\$132,850	\$40,923	69%	\$28,775	142%
1/1/2000	\$89,822	\$117,318	\$27,496	77%	\$24,276	113%



## **BRAINTREE RETIREMENT SYSTEM**

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### **ACTUARIAL METHODS AND ASSUMPTIONS**

#### **Actuarial Methods**

1.     Actuarial Cost Method  

The Entry Age Normal Actuarial Cost Method has been used in this valuation. Under this method, the normal cost is the amount calculated as the level percentage of compensation necessary to fully fund the prospective benefits from each member's entry age to retirement age.

The actuarial accrued liability represents the theoretical accumulation of all prior years' normal costs for the plan members as if the program had always been in effect. The unfunded actuarial accrued liability is the excess of the actuarial accrued liability over plan assets.
2.     Asset Valuation Method  

Market value of assets (adjusted by payables and receivables).
3.     Fiscal Year Adjustment  

The actuarial results are adjusted by the valuation interest rate and salary scale to the beginning of Fiscal Year 2008. The unfunded actuarial accrued liability is rolled forward with normal cost and further adjusted by anticipated contributions and interest.

#### **Actuarial Assumptions**

1.     Investment Return  

7.875% per year net of investment expenses. The prior valuation was 8.0%.
2.     Salary Increases  

4.75% per year. Same as the prior valuation.



## BRAINTREE RETIREMENT SYSTEM

### ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

3. Withdrawal Prior to Retirement

The rates shown at the following sample ages illustrate the withdrawal assumption.

<i>Age</i>	<b>Rate of Withdrawal</b>	
	<i>Group 1 and 2</i>	<i>Group 4</i>
20	37.51%	2.63%
25	28.23%	2.38%
30	17.35%	2.08%
35	10.07%	1.56%
40	7.21%	0.70%
45	5.68%	0.05%
50	4.57%	0.00%
55	0.00%	0.00%

4. Disability Prior to Retirement

The rates shown at the following sample ages illustrate the assumption regarding the incidence of disability:

<i>Age</i>	<b>Rate of Disability</b>	
	<i>Group 1 and 2</i>	<i>Group 4</i>
20	0.16%	0.10%
25	0.20%	0.12%
30	0.36%	0.18%
35	0.74%	0.26%
40	1.39%	0.38%
45	2.06%	0.58%
50	2.40%	0.98%
55	2.40%	1.60%
60	2.40%	1.97%

Disability is assumed to be 33% ordinary and 67% accidental for Group 1 and 2 and 10% ordinary and 90% accidental for Group 4.



## BRAINTREE RETIREMENT SYSTEM

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### ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

5. Rates of Retirement

The rates shown at the following ages illustrate the assumption regarding the incidence of retirement, once the member has achieved 10 years of service:

<b>Rates of Retirement</b>		
<i>Age</i>	<i>Group 1 and 2</i>	<i>Group 4</i>
50	N/A	2%
51	N/A	2%
52	N/A	2%
53	N/A	2%
54	N/A	2%
55	10%	5%
56	3%	5%
57	3%	5%
58	3%	5%
59	5%	5%
60	5%	10%
61	5%	10%
62	10%	20%
63	10%	20%
64	10%	20%
65	100%	100%

6. Mortality

The RP-2000 mortality table for healthy annuitants (sex-distinct).

7. Disabled Life Mortality

The RP-2000 mortality table for healthy annuitants (sex-distinct) set-forward by 5 years. Death is assumed to be due to the same cause as the disability 50% of the time.

8. Regular Interest Rate Credited to Annuity Savings Account

2% per year.





## **BRAINTREE RETIREMENT SYSTEM**

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### **ACTUARIAL METHODS AND ASSUMPTIONS (Continued)**

- |                              |   |
|------------------------------|---|
| 9. Family Composition        | Members assumed married with 2 dependent children – one male and one female both age 15; age difference between member and spouse assumed to be 3 years (the male being the older). |
| 10. Cost-of-Living Increases | A 3% COLA on the first \$12,000 of a member's retirement allowance is assumed to be granted every year.   |
| 11. Administrative Expenses  | Estimated budgeted amount of \$289,000 for the Fiscal Year 2008 excluding investment management fees and custodial fee is added to the Normal Cost.                                 |
| 12. Step Increases           | Step increases are assumed to be part of the salary increase assumption.  |
| 13. Credited Service         | Service between date of hire and date of membership is assumed to be purchased by all members.  |
| 14. Contribution Timing      | Contributions are assumed to be made at the beginning of the fiscal year (July 1).  |
| 15. Valuation Date           | January 1, 2006.  |



## BRAINTREE RETIREMENT SYSTEM

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### SUMMARY OF PRINCIPAL PROVISIONS

1. Participant

Participation is mandatory for all full-time employees whose employment commences before age 65. There are three classes of members in the retirement system:

*Group 1:* general employees

*Group 2:* employees in specified hazardous occupations (e.g., electricians)

*Group 4:* police and firefighters
2. Member Contributions

Member contributions vary depending upon date hired as follows:

Date of Hire	Member Contribution Rate
Prior to 1975	5% of Pay
1975 – 1983	7% of Pay
1984 – June 30, 1996	8% of Pay
After June 30, 1996	9% of Pay

Members hired after 1978 contribute an additional 2% of pay over \$30,000.
3. Pay
  - a. Pay

Gross regular compensation excluding bonuses, overtime, severance pay, unused sick pay, and other similar compensation.
  - b. Average Pay

The average of pay during the 3 consecutive years that produce the highest average or, if greater, during the last three years (whether or not consecutive) preceding retirement.
4. Credited Service

Period during which an employee contributes to the retirement system plus certain periods of military service and “purchased” service.



## BRAINTREE RETIREMENT SYSTEM

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### SUMMARY OF PRINCIPAL PROVISIONS (Continued)

#### 5. Service Retirement

- a. Eligibility Completion of 20 years of credited service or attainment of age 55 and completion of 10 years of credited service. If hired prior to 1978 or a member of group 4, attainment of age 55.
- b. Retirement Allowance Determined as the product of the member's benefit percentage, average pay and credited service, where the benefit percentage is shown below (maximum allowance of 80% of average pay):

Benefit Percentage	Group 1	Group 2	Group 4
2.5%	65+	60+	55+
2.4	64	59	54
2.3	63	58	53
2.2	62	57	52
2.1	61	56	51
2.0	60	55	50
1.9	59	N/A	49
1.8	58	N/A	48
1.7	57	N/A	47
1.6	56	N/A	46
1.5	55	N/A	45

In addition, veterans receive an additional \$15 per year for each year of credited service up to 20 years.

#### 6. Deferred Vested Retirement

- a. Eligibility Completion of 10 years of credited service (for elected and appointed members, 6 years in the event of involuntary termination).



## BRAINTREE RETIREMENT SYSTEM

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### SUMMARY OF PRINCIPAL PROVISIONS (Continued)

- b. Retirement Allowance                      Determined in the same manner as 5b. with the benefit payable at age 55, unless deferred until later at the member's option.

Member contributions with interest may be withdrawn after separation from service. If contributions are withdrawn, eligibility for retirement benefits is forfeited. Members hired before 1984 receive full interest on contributions that are withdrawn; otherwise, one half the credited interest is provided for members who withdraw after 5 but before 10 years of credited service and no interest is provided for withdrawals before 5 years of credited service.

#### 7. Ordinary Disability Retirement

- a. Eligibility                                      Non-job related disability after completion of 10 years of credited service.
- b. Retirement Allowance                      Determined in the same manner as 5b. with the benefit payable immediately. Veterans receive 50% of pay (during final year) plus an annuity based on accumulated member contributions with interest.

#### 8. Accidental Disability Retirement

- a. Eligibility                                      Disabled as a result of an accident in the performance of duties. No age or service requirement.
- b. Retirement Allowance                      72% of pay plus an annuity based on accumulated member contributions with interest. Also, a dependent's allowance per year for each child. Total allowance not to exceed 100% of pay (75% for members hired after 1987).



## BRAINTREE RETIREMENT SYSTEM

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### SUMMARY OF PRINCIPAL PROVISIONS (Continued)

#### 9. Non-Occupational Death

- a. Eligibility Dies while in active service, but not due to occupational injury. 2 years of service.
- b. Retirement Allowance Benefit as if Option C had been elected (see below). Minimum monthly benefits provided as follows: spouse - \$250, first child - \$120, each additional child - \$90.

#### 10. Occupational Death

- a. Eligibility Dies as a result of an occupational injury.
- b. Benefit Amount Same as 8b.

#### 11. Cost-of-Living Increases

An increase of up to 3% applied to the first \$12,000 of annual benefit. Funded by the Municipality from Fiscal Year 1999. Percentage increase is voted on each year by the Retirement Board. Cost-of-living increases granted during Fiscal Year 1982 through Fiscal 1998 are reimbursed by the Commonwealth.

#### 12. Optional Forms of Payment

- a. Option A Allowance payable monthly for the life of the member.
- b. Option B Allowance payable monthly for the life of the member with a guarantee of remaining member contributions with interest.
- c. Option C Allowance payable monthly for the life of the member with 66-2/3% continuing to the member's beneficiary upon the member's death. If the beneficiary predeceases the member, the allowance amount "pops up" to the non-reduced amount.



## BRAINTREE RETIREMENT SYSTEM

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### GLOSSARY OF TERMS

1.     Present Value of Benefits     Represents the dollar value today of all benefits expected to be earned by current members if all actuarial assumptions are exactly realized.
2.     Actuarial Cost Method     The procedure that is used to allocate the present value of benefits between the liability that is attributable to past service (Actuarial Accrued Liability) and that attributable to future service.
3.     Actuarial Assumptions     Estimates are made as to the occurrence of certain events that determine the level of benefits to be paid and how long they will be provided. The more important actuarial assumptions include the investment return on assets, salary increases and the rates of turnover, disability, retirement and mortality.
4.     Actuarial Accrued Liability     The portion of the Present Value of Benefits that is attributable to past service.
5.     Normal Cost     The portion of the Present Value of Benefits that is attributable to benefits to be earned in the coming year.
6.     Actuarial Assets     Market value of assets of the funds, adjusted by payables and receivables, set aside through employer and member contributions to provide for benefits.
7.     Unfunded Actuarial Accrued Liability     That portion of the Actuarial Accrued Liability not covered by System Assets.
8.     PERAC     Public Employee Retirement Administration Commission, a division of the State government which has regulatory authority over the administration of the retirement system.
9.     PRIT     Pension Reserves Investment Trust Fund is the state controlled and administered fund for the investment of assets for members of the retirement system.
10.    GASB     Government Accounting Standards Board (issues guidance for disclosure of retirement system liabilities).